

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Childress et al.	§
	§ Group Art Unit: 2144
Serial No. 10/815,236	§
	§ Examiner: Mirzadegan, Saeed S.
Filed: March 31, 2004	§
	§ Confirmation No.: 8129
For: Apparatus and Method for	§
Allocating Resources Based on Service	§
Level Agreement Predictions and	
Associated Costs	

35525

PATENT TRADEMARK OFFICE
CUSTOMER NUMBER

Commissioner for Patents
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APPEAL BRIEF (37 C.F.R. 41.37)

This brief is in furtherance of the Notice of Appeal, filed in this case on April 29, 2008.

A fee of \$510.00 is required for filing an Appeal Brief. Please charge this fee to IBM Corporation Deposit Account No. 09-0447. No additional fees are believed to be necessary. If, however, any additional fees are required, I authorize the Commissioner to charge these fees which may be required to IBM Corporation Deposit Account No. 09-0447. No extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and I authorize the Commissioner to charge any fees for this extension to IBM Corporation Deposit Account No. 09-0447.

REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: International Business Machines Corporation of Armonk, New York.

RELATED APPEALS AND INTERFERENCES

This appeal has no related proceedings or interferences.

STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

The claims in the application are: 1-20

B. STATUS OF ALL THE CLAIMS IN APPLICATION

Claims canceled: None

Claims withdrawn from consideration but not canceled: None

Claims pending: 1-20

Claims allowed: None

Claims rejected: 1-20

Claims objected to: None

C. CLAIMS ON APPEAL

The claims on appeal are: 1-20

STATUS OF AMENDMENTS

No amendment after final rejection was filed for this case.

SUMMARY OF CLAIMED SUBJECT MATTER

Generally, the present claims are directed to a technique for mitigating penalties that may be assessed due to failure of a service provider to adhere to the terms/conditions of a service level agreement, and such penalty mitigation is achieved at least in part by allocating and re-allocating service provider system resources based on service level agreement penalties.

A. CLAIM 1 - INDEPENDENT

The subject matter of Claim 1 is directed to a method, in a data processing system, for allocating service provider system resources to hosted applications (Specification page 8, lines 3-6; page 19, lines 9-12; page 24, lines 5-8; Figure 5, element 500). The method includes determining whether a breach of a first SLA, in a plurality of service level agreements (SLAs) currently being serviced by service provider system resources, is imminent (Specification page 25, lines 3-5; page 32, line 29 – page 33, line 1; Figure 7, block 710). SLA information for the plurality of SLAs is retrieved (Specification page 25, lines 19-27; page 33, lines 7-9; Figure 7, block 740). A minimum penalty SLA from the plurality of SLAs is determined based on the retrieved SLA information (Specification page 25, lines 13-19; page 33, lines 10-17; Figure 7, block 750). Service provider system resources are reallocated from applications associated with the minimum penalty SLA to applications associated with the first SLA (Specification page 27, lines 26-29; page 33, lines 18-25; Figure 7, block 760).

B. CLAIM 9 - INDEPENDENT

The subject matter of Claim 9 is directed to a computer readable medium encoded with a computer program product that is operable with a data processing system for allocating service provider system resources to hosted applications (Specification page 8, lines 3-6; page 19, lines 9-12; page 24, lines 5-8; Figure 5, element 500). The computer readable medium includes first instructions for determining whether a breach of a first SLA, in a plurality of service level agreements (SLAs) currently being serviced by service provider system resources, is imminent (Specification page 25, lines 3-5; page 32, line 29 – page 33, line 1; Figure 7, block 710). The computer readable medium includes second instructions for retrieving SLA information for the plurality of SLAs (Specification page 25, lines 19-27; page 33, lines 7-9; Figure 7, block 740). The

computer readable medium includes third instructions for determining a minimum penalty SLA from the plurality of SLAs based on the retrieved SLA information (Specification page 25, lines 13-19; page 33, lines 10-17; Figure 7, block 750). The computer readable medium also includes fourth instructions for reallocating service provider system resources from applications associated with the minimum penalty SLA to applications associated with the first SLA (Specification page 27, lines 26-29; page 33, lines 18-25; Figure 7, block 760).

C. CLAIM 17 - INDEPENDENT

The subject matter of Claim 17 is directed to an apparatus for allocating service provider system resources to hosted applications (Specification page 8, lines 3-6; page 19, lines 9-12; page 24, lines 5-8; Figure 5, element 500). The apparatus includes means for determining whether a breach of a first SLA, in a plurality of service level agreements (SLAs) currently being serviced by service provider system resources, is imminent (Specification page 25, lines 3-5; page 32, line 29 – page 33, line 1; Figure 7, block 710). The apparatus includes means for retrieving SLA information for the plurality of SLAs (Specification page 25, lines 19-27; page 33, lines 7-9; Figure 7, block 740). The apparatus includes means for determining a minimum penalty SLA from the plurality of SLAs based on the retrieved SLA information (Specification page 25, lines 13-19; page 33, lines 10-17; Figure 7, block 750). The apparatus includes means for reallocating service provider system resources from applications associated with the minimum penalty SLA to applications associated with the first SLA (Specification page 27, lines 26-29; page 33, lines 18-25; Figure 7, block 760).

The corresponding hardware for the means for determining, means for retrieving, means for determining, and means for reallocating is described in the Specification at page 22, line 9 – page 28, line 26 and as depicted by element 500 of Figure 5.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to review on appeal are as follows:

A. GROUND OF REJECTION 1

Whether Claims 9-16 were properly rejected under 35 U.S.C. § 101 as being directed towards non-statutory subject matter;

B. GROUND OF REJECTION 2

Whether Claims 1, 6-9 and 14-17 were properly rejected as being obvious over Applicant Own Admitted Prior Art, hereinafter “APA” in view of Kiremidjian et al. (U.S. Publication No. 2003/0229714), hereinafter “Kiremidjian” and further in view of Chidambaran et al. (U.S. Publication No. 2005/0055446), hereinafter “Chidambaran”, under 35 U.S.C. § 103;

C. GROUND OF REJECTION 3

Whether Claims 2 and 10 were properly rejected as being obvious over APA, Kiremidjian and Chidambaran as applied to Claims 1 and 9 and further in view of Laye et al. (U.S. Publication No. 2003/0120771), hereinafter “Laye”, under 35 U.S.C. § 103; and

D. GROUND OF REJECTION 4

Whether Claims 3-5, 11-13 and 18-20 were properly rejected as being obvious over APA, Kiremidjian and Chidambaran as applied to Claims 1, 9 and 17 and further in view of Chaddha et al. (U.S. Publication No. 2006/0293942), hereinafter “Chaddha”, under 35 U.S.C. § 103.

ARGUMENT

A. GROUND OF REJECTION 1 (Claims 9-16)

Claims 9-16 stand rejected under 35 U.S.C. § 101 as being directed towards non-statutory subject matter.

1. *Claims 9-16*

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)(claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1760 (claim to data structure *per se* held nonstatutory)” (emphasis added by Appellants).

Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility.¹

Claim 9 recites “A computer readable medium encoded with a computer program product that is operable with a data processing system for allocating service provider system resources to hosted applications”. Appellants urge that a computer readable medium encoded with a computer program product that is operable with a data processing system for allocating service provider system resources to hosted applications is a computer element which defines structural and functional inter-relationships between the computer program and the rest of the computer which permits the computer program’s functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.² Accordingly, as Claim 9

¹ http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf

² The USPTO’s own guidelines similarly state this type of claim is proper under 35 U.S.C. § 101. For example, as stated in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (published in the Official Gazette on November 22, 2005) at ANNEX IV (Computer-Related Nonstatutory Subject Matter) “When functional descriptive material is recorded on some **computer-readable medium** it becomes structurally and functionally interrelated to the medium and

expressly recites a computer readable medium encoded with a computer program product that is operable with a data processing system for allocating service provider system resources to hosted applications, it is shown that Claim 9 (and similarly for Claims 10-16) is directed to statutory subject matter, pursuant to both judicial case law and the USPTO's own MPEP rules. Thus, Claim 9 is statutory under 35 U.S.C. § 101.

Still further, Claim 9 explicitly recites a computer readable medium encoded with a computer program product that is operable with a data processing system for allocating service provider system resources to hosted applications, which is either a 'manufacture' or a 'composition of matter', both of which are statutorily recognized subject matter³. In addition, since Claim 9 explicitly recites a computer readable medium encoded with a computer program product that is operable with a data processing system for allocating service provider system resources to hosted applications, such claim does *not* fall within one of the three judicially determined exceptions of: natural phenomenon, law of nature or abstract idea (see, e.g., MPEP 2106 and in particular MPEP 2106(IV)(B) and (C)), but instead is limited to a practical application in the technological arts⁴. Thus, it is further shown that Claim 9 is allowable in view of 35 U.S.C. § 101 as the invention recited therein does not fall within a judicial exception but instead is limited to a practical application in the technological arts.

It is further urged that Claim 9 is very different from the type of claim rejected under 35 U.S.C. § 101 in *In re Nuijten*, 84 USPQ2d 1495, in that such Nuijten claim was specifically directed to operations (watermarking) performed on a data signal itself ("A method of embedding supplemental data in a signal...encoding the signal...modifying selected samples of the encoded

will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory)."

³ **35 U.S.C. 101 Inventions patentable.**

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

⁴ *Only when* the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. § 101. Compare *Musgrave*, 431 F.2d at 893, 167 USPQ at 289; *In*

signal”). As described above, Claim 9 is not directed to operations being performed on a signal itself, and thus the holding in *In re Nuijten, Id.* is not applicable to Claim 9. For example, this same Nuijten patent application had a program product claim (Claim 15) that was not the subject of appeal, *and this program product claim was allowed, In re Nuijten, Id.*

B. GROUND OF REJECTION 2 (Claims 1, 6-9 and 14-17)

Claims 1, 6-9 and 14-17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Applicant Own Admitted Prior Art, hereinafter “APA” in view of Kiremidjian et al. (U.S. Publication No. 2003/0229714), hereinafter “Kiremidjian” and further in view of Chidambaran et al. (U.S. Publication No. 2005/0055446), hereinafter “Chidambaran”.

In rejecting claims under 35 U.S.C. Section 103, the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. *Id.* To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be considered and given weight. MPEP 2143.03. *See also, In re Royka*, 490 F.2d 580 (C.C.P.A. 1974). If the Examiner fails to establish a *prima facie* case, the rejection is improper and will be overturned. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In the absence of a proper *prima facie* case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). As will be shown in detail below, the Examiner has failed to properly establish a *prima facie* showing of obviousness with respect to Claims 1, 6-9 and 14-17, and thus such claims have been erroneously rejected under 35 U.S.C. § 103.

Appellants will now show that (1) the alleged admitted prior art is not admitted prior art, (2) the Examiner’s characterization of the alleged APA is incorrect/erroneous, and (3) the Examiner has failed to properly establish a *prima facie* showing of obviousness with respect to these claims.

re Foster, 438 F.2d 1011, 1013, 169 USPQ 99, 101 (CCPA 1971).

1. *Claims 1, 6, 7, 9, 14, 15 and 17*

In rejecting Claim 1, the Examiner appears to equate information submitted by Appellants on an Information Disclosure Statement (such IDS being filed on March 31, 2004) as being admitted prior art, as the Examiner rejects Claim 1 using alleged admitted prior art, which is followed in parenthetical brackets with references to documents listed by Appellants in the IDS submission (e.g. “IDS, AA, page 1, lines 22-25”). Appellants urge that the information included in the IDS submission is not admitted prior art. For example, on page 1 of this IDS submission, it states:

“In accordance with 37 C.F.R. 1.97(h), the filing of the Information Disclosure Statement shall not constitute an admission that any information cited therein is, or is considered to be, material to patentability as defined in 37 C.F.R. 1.56(b).”

Accordingly, the information listed in the IDS filed on March 31, 2004 is not admitted prior art (APA).

Even assuming *arguendo* that “AA” is APA, the Examiner has mischaracterized the teachings contained in such reference. For example, the Examiner states that IDS AA describes “retrieving SLA information for the SLA” at page 3, lines 12-14. Appellants show that there, IDS AA states:

“The architecture is open such that any IBM Tivoli Software and third-party application can provide data for SLAs and be automatically discovered by the IBM Tivoli Service Level Advisor.”

This cited passage describes how ‘applications’ can provide ‘data’ (note also the immediately preceding line, which is the Title of this section – “Data Sources”. Appellants urge that this discussion regarding data sources provided by ‘applications’ does not describe any retrieval of SLA information *for the SLA itself*. Thus, contrary to the Examiner’s assertion, this IDS AA passage at page 3, lines 12-14 does not teach “retrieving SLA information for the SLA”. Thus, the Examiner’s

characterization that IDS AA page 3, lines 12-14 describes “retrieving SLA information for the SLA” is clearly in error and a mischaracterization of what IDS AA actually discloses.

As yet a further example of mischaracterizing the IDS AA disclosure, the Examiner states that IDS AA describes “determining a minimum penalty SLA based on the received SLA information” at page 1, lines 30-32 and page 2, lines 1-2. Appellants show that there, IDS AA states:

“Reporting capabilities include an Executive view of SLA status by customer, a Customer view showing only the status of that customer’s SLAs, and an IT Operations view that provides details about SLM from customers to components.”

It is urged that such SLA status ‘views’ do not describe any determination being made as to *a minimum penalty SLA that is based on received SLA information*. Instead, the views show operational characteristics of the system resource itself (page 3, Figure 2). There is no type of penalty assessment or determination associated with these resource characteristic views.⁵

Thus, contrary to the Examiner’s assertion, this IDS AA passage at page 1 lines 30-32 and page 2, lines 1-2 does not teach “determining a minimum penalty SLA based on the received SLA information”. Thus, the Examiner’s characterization that IDS AA page 1 lines 30-32 and page 2, lines 1-2 describes “determining a minimum penalty SLA based on the received SLA information” is clearly in error and mischaracterizes what IDS AA actually discloses.

Thus, even assuming arguendo that IDS AA is APA, such reference does not establish a teaching of these two (2) missing claimed features, and therefore it is urged that Claim 1 has been erroneously rejected, as a proper prima facie showing of obviousness has not be established by the Examiner.

Further with respect to Claim 1, such claim recites “reallocating service provider system resources from applications associated with the minimum penalty SLA to applications associated with the first SLA”. In rejecting this aspect of Claim 1, the Examiner states that Chidambaran

⁵ By analogy, a person driving a car may know it is against the law to speed or run a red light, but the mere knowledge that such an act may be a violation does not mean that the person knows, or knows how to determine, what a penalty actually is for such violation. Penalty determination, or ways to minimize or mitigate penalties, is not inherent in violation awareness.

teaches ‘reallocation of resources’ at page 3, paragraph [0043]. Notably absent in such assertion is any allegation by the Examiner that any cited reference teaches that the resources are reallocated *from applications associated with the minimum penalty SLA*, and these resources are reallocated *to applications associated with the first SLA*. This is likely because none of the cited references teach or suggest these missing claimed features. Instead, the cited Chidambaran reference merely describes a backend systems operator that *manually allocates system resources between a set of services* (page 3, paragraph [0043]). There is no description of any type of minimum penalty SLA being used in such manual resource allocation, nor is there any description that such resources are *reallocated to the actual application associated with the first SLA for which a breach has been determined to be imminent*, as per the features of Claim 1. Thus, it is further urged that Claim 1 has been erroneously rejected, as it is further shown that the Examiner has failed to properly establish a prima facie showing of obviousness with respect to such claim.

Quite simply, none of the cited references teach or suggest SLA *penalties* or associated actions (reallocation of resources) based on SLA penalties, as are provided by the features of Claim 1.

2. Claims 8 and 16

Appellants initially urge error in the rejection of Claim 8 (and similarly for Claim 16) for reasons given above with respect to Claim 1 (of which Claim 8 depends upon).

Further with respect to Claim 8 (and similarly for Claim 16), such claim recites “wherein, if it is determined that a breach of a first SLA is not imminent, allocation of service provider system resources is performed in a default manner”. As can be seen, the features of Claim 8 are directed to conditional resource allocation processing steps, where allocation of resources is performed in a default manner *if* it is determined that a breach of a service level agreement is *not imminent*. In rejecting Claim 8, the Examiner states that such claimed conditional resource allocation feature is taught by APA at AD, page 4, lines 9-13. While Appellants deny that reference AD is admitted prior art (as previously described), Appellants in any event urge that this cited passage merely states:

“Automatic evaluation of service-level agreements (SLAs) – Tivoli Service Level Advisor automatically compares the terms of the SLAs (such a metrics, thresholds, and business schedules) with monitored data from your IT environment. Alerts are generated when any of the terms of the SLA are violated.”

This cited passage does not teach or otherwise suggest the features of Claim 8 for several reasons. First, this cited passage describes comparing two items (SLA terms; monitored data) and the generation of an *alert* when any of the SLA terms *are violated*. In contrast, the features of Claim 8 are directed to actions that occur if it is determined that a *breach is not imminent*. A teaching of actions that occur in response to an actual SLA term violation cannot teach actions that occur when a SLA term violation is *not* imminent. Secondly, the associated conditional action is also different between what is claimed and what is described by this cited passage. Per the features of Claim 8, the associated conditional action that occurs in response to the non-breach determination is an allocation of system resources. In contrast, and per the teachings of the cited reference, the associated action that occurs in response to the breach determination is the generation of an alarm. Thus, both the triggering condition (non-breach, as claimed versus breach, as per the cited reference) as well as the associated conditional action (system resource allocation, as claimed versus alarm generation, as per the cited reference) are different, and thus it is further urged that Claim 8 (and similarly for Claim 13) is not obvious in view of the cited references due to these additional claimed features that are not taught or suggested by the cited references.

Therefore, the rejection of Claims 1, 6-9 and 14-17 under 35 U.S.C. § 103 is shown to be in error.

C. GROUND OF REJECTION 3 (Claims 2 and 10)

Claims 2 and 10 stand rejected under 35 U.S.C. § 103 as being unpatentable over APA, Kiremidjian and Chidambaran as applied to Claims 1 and 9 above, and further in view of Laye et al. (U.S. Publication No. 2003/0120771), hereinafter “Laye”.

1. Claims 2 and 10

Appellants urge error in the rejection of these claims for similar reasons to those given above with respect to independent Claims 1 and 9, respectively, as the newly cited reference to

Laye does not overcome the teaching/suggestion deficiencies identified above with respect to Claims 1 and 9, of which Claims 2 and 10 depend upon, respectively.

Therefore, the rejection of Claims 2 and 10 under 35 U.S.C. § 103 is in error.

D. GROUND OF REJECTION 4 (Claims 3-5, 11-13 and 18-20)

Claims 3-5, 11-13 and 18-20 stand rejected under 35 U.S.C. § 103 as being unpatentable over APA, Kiremidjian and Chidambaran as applied to Claims 1, 9 and 17 above, and further in view of Chaddha et al. (U.S. Publication No. 2006/0293942), hereinafter “Chaddha”.

1. *Claims 3, 11 and 18*

Appellants initially urge error in the rejection of these claims for similar reasons to those given above with respect to independent Claims 1, 9 and 17, as the newly cited reference to Chaddha does not overcome the teaching/suggestion deficiencies identified hereinabove.

Further with respect to Claim 3 (and similarly for Claims 11 and 18), such claim recites specific steps of (1) identifying a lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs; (2) comparing the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs to a penalty associated with the first SLA; and (3) selecting an SLA associated with either the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs or the first SLA as a minimum penalty SLA based on the comparison. In rejecting Claim 3, the Examiner merely alleges:

“In the same field of endeavor, Chaddha teaches, (page 7, ¶0068, lines 14-19 & ¶0070) information associating penalties to SLAs.”

Appellants urge that a mere cursory statement that penalties are associated to SLAs does not establish a specific teaching or suggestion with respect to each of the three explicitly enumerated steps recited in Claim 3 of:

(1) identifying a lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs;

- (2) comparing the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs to a penalty associated with the first SLA; and
- (3) selecting an SLA associated with either the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs or the first SLA as a minimum penalty SLA based on the comparison.

Thus, it is further urged that Claim 3 has been erroneously rejected, as it is further shown that the Examiner has failed to properly establish a prima facie showing of obviousness with respect to such claim, as the Examiner failed to address the detailed sub-steps associated with the minimal penalty determination that are expressly recited in Claim 3. Instead, the cited reference merely describes an identification of what contracts may be subject to penalties.

In determining obviousness, the scope and content of the prior art are... determined; differences between the prior art and the claims at issue are... ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or non-obviousness of the subject matter is determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). “Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l. Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007). “Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006)).”

Appellants urge that Chaddha *uses penalty information in a substantially different way from what is claimed*. Chaddha uses penalty information in a reactive mode to adjust billing for each billing cycle for *actual* breaches that have already occurred (Chaddha paragraph [0068]). This is purely *an after-the-fact, reactionary* action as it occurs *after a breach has already occurred*. In contrast, per the features of Claim 3 (in combination with Claim 1), a highly dynamic, pro-active system is provided wherein a determination is made that a breach is imminent (i.e. it has *not yet occurred*, as it is ‘imminent’), and such determination triggers a series of SLA penalty determination steps that are performed (per the features of Claim 3) in an

attempt to avoid a breach by reallocating resources based upon a determined lowest cost penalty. There would have been no reason for Chaddha to make such a minimal penalty determination in order to reallocate system resources, as Chaddha merely calculates penalties for each billing cycle in order to adjust the billing to account for any *actual breaches that have already occurred*. Thus, the only motivation for making such a modification must be coming from Appellants' own disclosure and claims, which is impermissible hindsight analysis. It is error to reconstruct the patentee's claimed invention from the prior art by using the patentee's claims as a "blueprint". When prior art references require selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight obtained from the invention itself. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 227 USPQ 543 (Fed. Cir. 1985).

2. Claims 4, 5, 12, 13, 19 and 20

Appellants initially urge error in the rejection of Claims 4 and 5 (and similarly for Claims 12, 13, 19 and 20) for reasons given above with respect to Claim 1 (of which Claims 4 and 5 depend upon).

Further with respect to Claims 4 and 5 (and similarly for Claims 12, 13, 19 and 20), the Examiner states in rejecting such claims:

"Regarding claims 4, 5 the limitations of these claims have already been addressed above."

Appellants urge that the only thing 'addressed above' in this obviousness rejection is the rejection of Claim 3. Claims 4 and 5 are separate and distinct claims from Claim 3, and recite different elements than those recited in Claim 3. The Examiner's failure to address the particular features recited in these claims 4 and 5 is a clear violation of MPEP 214301(II), where it states:

When evaluating claims for obviousness under 35 U.S.C. 103, all the limitations of the claims must be considered and given weight. *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983) *aff'd mem.* 738 F.2d 453 (Fed. Cir. 1984)

For example, Claim 4 recites “retrieving current service provider system *resource allocation information* for applications associated with each SLA of the plurality SLAs, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs, and wherein determining a minimum penalty SLA based on the retrieved SLA information includes: identifying a subset of SLAs from the plurality of SLAs that have a sufficient current allocation of service provider system resources to be reallocated to applications associated with the first SLA in order to avoid breaching the first SLA; identifying a lowest penalty associated with SLAs in the subset of SLAs, to thereby identify a lowest penalty SLA candidate; and selecting the lowest penalty SLA candidate as the minimum penalty SLA”. As can be seen, a new step of ‘retrieving’ *system resource allocation information* is a part of Claim 4, and no other claims have previously recited this new step of retrieving system resource allocation information. Thus, the Examiner’s assertion that this claimed step has already been ‘addressed above’ is clearly erroneous, as no other claims (except related Claims 12 and 19) include such a system resource allocation information retrieval step, and thus there would have been no reason for the Examiner to have previously provided any analysis for such previously unclaimed system resource allocation retrieval step.

As another example, resource allocation information that is retrieved *includes one or more penalties associated with each SLA*. None of the previous claim discussion has mentioned or analyzed that *resource allocation information that is retrieved includes SLA penalty information*, and thus the Examiner’s mere reliance on ‘the limitations of these claims have already been addressed above’ has failed to properly establish a prima facie showing of obviousness with respect to such claim.

Thus, it is further urged that Claim 4 (and dependent Claim 5) has been erroneously rejected, as it is shown that the Examiner has failed to properly establish a prima facie showing of obviousness with respect to such claim by their failure to address the claimed step of “retrieving current service provider system resource allocation information for applications associated with each SLA of the plurality SLAs, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs” that is explicitly recited in Claim 4.

In addition, Claim 4 recites detailed sub-steps associated with the previously recited ‘determining a minimal penalty step’, including:

- (i) identifying a subset of SLAs from the plurality of SLAs that have a sufficient current allocation of service provider system resources to be reallocated to applications associated with the first SLA in order to avoid breaching the first SLA;
- (ii) identifying a lowest penalty associated with SLAs in the subset of SLAs, to thereby identify a lowest penalty SLA candidate; and
- (iii) selecting the lowest penalty SLA candidate as the minimum penalty SLA

No other claims have previously recited these new sub-steps. For example, the features of Claim 4 are further refined from the ‘already been addressed above’ rejection rationale in that certain features are directed to identifying certain ones of the SLAs that have a *sufficient current allocation of resources to be reallocated* – in order to *avoid breaching the SLA*. None of the previous claims, nor the claim rejection discussion ‘already addressed above’, has addressed such breach avoidance through (1) SLA subset identification and (2) sufficient current allocation of resources to be reallocated, and thus the Examiner’s mere reliance on ‘the limitations of these claims have already been addressed above’ has failed to properly establish a prima facie showing of obviousness with respect to such claim.

Thus, the Examiner’s assertion that these claimed sub-steps have already been ‘addressed above’ is clearly erroneous, as no other claims (except related Claims 12 and 19) include such determining sub-steps, and thus there would have been no reason for the Examiner to have previously provided any analysis for such claimed ‘determining’ sub-steps. Thus, it is further urged that Claim 4 (and dependent Claim 5) has been erroneously rejected, as it is further shown that the Examiner has failed to properly establish a prima facie showing of obviousness with respect to such claim by their failure to address the three (3) claimed determining sub-steps expressly recited in Claim 4.

In addition, because none of the cited references contemplate a dynamic *reallocation of resources to an application* for which a determination has been made that a *breach of an SLA associated with such application is imminent*, there would have been no reason to modify the teachings of the cited reference to include the missing minimal penalty determination steps that are provided by Claim 4.

Therefore, the rejection of Claims 3-5, 11-13 and 18-20 under 35 U.S.C. § 103 is in error.

E. CONCLUSION

As shown above, the Examiner has failed to state valid rejections against any of the claims. Therefore, Appellants request that the Board of Patent Appeals and Interferences reverse the rejections. Additionally, Appellants request that the Board direct the Examiner to allow the claims.

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CLAIMS APPENDIX

The text of the claims involved in the appeal is as follows:

1. A method, in a data processing system, for allocating service provider system resources to hosted applications, comprising:

determining whether a breach of a first SLA, in a plurality of service level agreements (SLAs) currently being serviced by service provider system resources, is imminent;

retrieving SLA information for the plurality of SLAs;

determining a minimum penalty SLA from the plurality of SLAs based on the retrieved SLA information; and

reallocating service provider system resources from applications associated with the minimum penalty SLA to applications associated with the first SLA.

2. The method of claim 1, wherein retrieving SLA information for the plurality of SLAs includes extracting the SLA information from one or more Extensible Markup Language (XML) documents in an SLA storage system.

3. The method of claim 1, wherein the SLA information includes one or more penalties associated with each of the SLAs in the plurality of SLAs, and wherein determining a minimum penalty SLA based on the retrieved SLA information includes:

identifying a lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs;

comparing the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs to a penalty associated with the first SLA; and

selecting an SLA associated with either the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs or the first SLA as a minimum penalty SLA based on the comparison.

4. The method of claim 1, further comprising:

retrieving current service provider system resource allocation information for applications associated with each SLA of the plurality SLAs, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs, and wherein determining a minimum penalty SLA based on the retrieved SLA information includes:

identifying a subset of SLAs from the plurality of SLAs that have a sufficient current allocation of service provider system resources to be reallocated to applications associated with the first SLA in order to avoid breaching the first SLA;

identifying a lowest penalty associated with SLAs in the subset of SLAs, to thereby identify a lowest penalty SLA candidate; and

selecting the lowest penalty SLA candidate as the minimum penalty SLA.

5. The method of claim 4, further comprising:

retrieving historical information for the lowest penalty SLA candidate;

determining if the lowest penalty SLA candidate has been breached more than a threshold number of times within a predetermined time period based on the historical information; and

selecting a next lowest penalty SLA from the subset of SLAs as the lowest penalty SLA

candidate if the lowest penalty SLA candidate has been breached more than a threshold number of times within the predetermined time period.

6. The method of claim 1, wherein determining whether a breach of a first SLA is imminent includes using a prediction engine to generate a prediction of whether the first SLA will be breached based on monitored metrics of a service provider system.

7. The method of claim 6, wherein the prediction engine is a trend analysis algorithm associated with a service level management system.

8. The method of claim 1, wherein, if it is determined that a breach of a first SLA is not imminent, allocation of service provider system resources is performed in a default manner.

9. A computer readable medium encoded with a computer program product that is operable with a data processing system for allocating service provider system resources to hosted applications, comprising:

first instructions for determining whether a breach of a first SLA, in a plurality of service level agreements (SLAs) currently being serviced by service provider system resources, is imminent;

second instructions for retrieving SLA information for the plurality of SLAs;

third instructions for determining a minimum penalty SLA from the plurality of SLAs based on the retrieved SLA information; and

fourth instructions for reallocating service provider system resources from applications

associated with the minimum penalty SLA to applications associated with the first SLA.

10. The computer program product of claim 9, wherein the second instructions for retrieving SLA information for the plurality of SLAs include instructions for extracting the SLA information from one or more Extensible Markup Language (XML) documents in an SLA storage system.

11. The computer program product of claim 9, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs, and wherein the third instructions for determining a minimum penalty SLA based on the retrieved SLA information include:

instructions for identifying a lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs;

instructions for comparing the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs to a penalty associated with the first SLA; and

instructions for selecting an SLA associated with either the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs or the first SLA as a minimum penalty SLA based on the comparison.

12. The computer program product of claim 9, further comprising:

fifth instructions for retrieving current service provider system resource allocation information for applications associated with each SLA of the plurality of SLAs, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs,

and wherein the third instructions for determining a minimum penalty SLA based on the retrieved SLA information include:

instructions for identifying a subset of SLAs from the plurality of SLAs that have a sufficient current allocation of service provider system resources to be reallocated to applications associated with the first SLA in order to avoid breaching the first SLA;

instructions for identifying a lowest penalty associated with SLAs in the subset of SLAs, to thereby identify a lowest penalty SLA candidate; and

instructions for selecting the lowest penalty SLA candidate as the minimum penalty SLA.

13. The computer program product of claim 12, further comprising:

instructions for retrieving historical information for the lowest penalty SLA candidate;

instructions for determining if the lowest penalty SLA candidate has been breached more than a threshold number of times within a predetermined time period based on the historical information; and

instructions for selecting a next lowest penalty SLA from the subset of SLAs as the lowest penalty SLA candidate if the lowest penalty SLA candidate has been breached more than a threshold number of times within the predetermined time period.

14. The computer program product of claim 9, wherein the first instructions for determining whether a breach of a first SLA is imminent include instructions for using a prediction engine to generate a prediction of whether the first SLA will be breached based on monitored metrics of a service provider system.

15. The computer program product of claim 14, wherein the prediction engine is a trend analysis algorithm associated with a service level management system.
16. The computer program product of claim 9, wherein, if it is determined that a breach of a first SLA is not imminent, allocation of service provider system resources is performed in a default manner.
17. An apparatus for allocating service provider system resources to hosted applications, comprising:
- means for determining whether a breach of a first SLA, in a plurality of service level agreements (SLAs) currently being serviced by service provider system resources, is imminent;
 - means for retrieving SLA information for the plurality of SLAs;
 - means for determining a minimum penalty SLA from the plurality of SLAs based on the retrieved SLA information; and
 - means for reallocating service provider system resources from applications associated with the minimum penalty SLA to applications associated with the first SLA.
18. The apparatus of claim 17, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs, and wherein the means for determining a minimum penalty SLA based on the retrieved SLA information includes:
- means for identifying a lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs;
 - means for comparing the lowest cost penalty from the one or more penalties associated

with each SLA of the plurality of SLAs to a penalty associated with the first SLA; and

means for selecting an SLA associated with either the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs or the first SLA as a minimum penalty SLA based on the comparison.

19. The apparatus of claim 17, further comprising:

means for retrieving current service provider system resource allocation information for applications associated with each SLA of the plurality of SLAs, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs, and wherein the means for determining a minimum penalty SLA based on the retrieved SLA information includes:

means for identifying a subset of SLAs from the plurality of SLAs that have a sufficient current allocation of service provider system resources to be reallocated to applications associated with the first SLA in order to avoid breaching the first SLA;

means for identifying a lowest penalty associated with SLAs in the subset of SLAs, to thereby identify a lowest penalty SLA candidate; and

means for selecting the lowest penalty SLA candidate as the minimum penalty SLA.

20. The apparatus of claim 19, further comprising:

means for retrieving historical information for the lowest penalty SLA candidate;

means for determining if the lowest penalty SLA candidate has been breached more than a threshold number of times within a predetermined time period based on the historical information; and

means for selecting a next lowest penalty SLA from the subset of SLAs as the lowest penalty SLA candidate if the lowest penalty SLA candidate has been breached more than a threshold number of times within the predetermined time period.

EVIDENCE APPENDIX

This appeal brief presents no additional evidence.

RELATED PROCEEDINGS APPENDIX

This appeal has no related proceedings.